

Origination Form

Specifications

Name:	Victor Johnson	Standard Specification Section:	695
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Date:	2025-06-24T14:14:16Z	Associated Specs:	no

Summary:

Include minimum voltage readings for non-weight axle sensors installed in contracts.

Justification:

To ensure that non-weight axle sensor are operating properly prior to and during the final acceptance inspection.

Do the changes affect other types of specifications?

Neither

List Specifications Affected:

Other Affected Documents/Offices	Contacted	Yes/No
Other Standard Plans		No
Florida Design Manual		No
Structures Manual		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No
Materials Manual		No
Traffic Engineering Manual		No

Are changes in line with promoting and making progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?

no

What financial impact does the change have; project costs, pay item structure, or consultant fees?

eliminates the need to replace sensors outside of the financial projects and ensures proper installation and operations

What impact does the change have on production or construction schedules?

no change

How does this change improve efficiency or quality?

assist with contractor's final acceptance inspection and ensures FDOT TDA received quality data

Which FDOT offices does the change impact?

Transportation Data and Analytics

What is the impact to districts with this change?

eliminates the need to replace sensors outside of the financial projects and ensures proper installation and operations

Does the change shift risk and to who?

no change

Provide summary and resolution of any outstanding comments from the districts or industry.

Comments and Responses are available on the Track the Status of Revisions hyperlink located on the Specifications landing page: <https://www.fdot.gov/programmanagement/Specs.shtm>

What is the communication plan?

Through the established specification revision process (e.g., Internal and Industry Review)

What is the schedule for implementation?

The Standard Specifications eBook and Workbook are effective July 1st every year.

TRAFFIC MONITORING SITE EQUIPMENT (REV 6-24-25)

SUBARTICLE 695-3.2 is deleted and the following substituted:

695-3.2 Axle Sensor:

Section, Contract Documents, and Standard Plans, Index 695-001. Ensure axle sensors are installed in the roadway and secured using an adhesive bonding agent as listed on the APL.

Allow newly applied friction course to cure for a minimum of 30 days prior to the installation of in-road sensors.

Install axle sensors in the right-hand wheel-path midway between the leading and trailing loops as detailed in Standard Plans, Index 695-001. Install axles sensors in the left-hand wheel-path when no paved shoulder exists and sensor lead exit windows are installed at the right-hand edge of the roadway surface or in a lane which is to the left of and adjacent to an open lane of traffic.

Install the axle sensor such that the cable end is closest to the pull box to which the sensor lead cable will be routed. Install the end of the sensor mid-way into the edge line stripe or lane line stripe. Ensure that the axle sensor being installed has lead-in cables of sufficient length to reach the cabinet without splicing. Do not splice axle sensor lead-in cables.

Route the sensor leads to the pull box then to the TMS cabinet. Mark the sensor leads at the pull box and at termination in the cabinet. Submit lane numbering information as specified in Standard Plans, Index 695-001.

Cut the slot the length of the sensor plus an additional 3 to 4 inches. Ensure the depth and width of the slot is installed as recommended by the sensor manufacturer, typically 0.75 inch wide by 1.5 to 2 inches deep.

Use clips or jigs provided by the manufacturer to suspend the sensor at a uniform depth in the slot. Mix and apply the adhesive bonding agent ensuring the slot is completely full with no voids beneath the sensor.

695-3.2.12 Test Requirements: Perform the manufacturer's recommended on-site pre-installation test to determine the sensor's condition using an Inductive Capacitance Resistance meter. Replace any sensors that fail the pre-installation test.

Record all test results by lane on the warranty form provided by the manufacturer and leave a copy in the cabinet.

Repeat the test at the termination point in the cabinet after installation. Use an oscilloscope to view and record typical waveforms and signal intensity measurements for the axles of passenger cars and large trucks. Remove and replace any sensor that fails the test at no additional charge to the Department.

Perform an operational test to meet final acceptance requirements. The operational test requires the equipment to operate without deficiencies for a minimum of 14 days prior to final acceptance and must provide a minimum of 200 mv reading for a FHWA Class II vehicle. The sensor shall be operating without deficiencies at the time of final acceptance. Remove and replace any sensor that fails the operation test at no additional charge to the Department. Final inspection will be completed by FDOT TDA staff for final acceptance.